

REMARKS

Claims 15-21 and 31-39 are pending in the application, of which all were rejected by the Office Action of August 31, 2006. The Office Action states that claims 16 and 38 would be allowable under conditions stated within the Office Action. Reconsideration of the Claim Rejections is requested in view of the following Specification amendment, Claim amendments, Remarks, and Examiner Interview conducted on November 14, 2006. Claims 15-16, 32-35, and 38-39 are herewith amended. No new matter has been added.

A telephonic Examiner Interview was conducted on November 14, 2006, in regard to the above-referenced application. The participants included Examiner Justin Krause, Examiner Thomas Hannon and Applicants Patent Attorney Jeffrey Wax. No exhibits were utilized during the interview. The Office Action cited reference Titcomb (U.S. Patent 6,315,452) was discussed in comparison to Applicants pending claims. The drawings objection and 35 U.S.C. 112 rejections were also discussed.

Drawings and Specification Objection as to FIG. 3

The Examiners withdrawal of the restriction requirement as to Figure 2 and Figure 3 is acknowledged. However, the Drawings and Specification were objected to since the Examiner states that Figure 2 shows discrepancies as compared with Figure 3.

In response, Applicant notes that the Brief Description of the Drawings states that Figure 3 illustrates a closer and more detailed view of [stated] features, in particular flow direction and groove pumping direction, for further description. The enlarged features of Figure 3 omit a small number of features of Figure 2 to avoid obscuring the figure with details that are not further described, including the threaded fastener as stated by the Office Action.

Nevertheless, Applicant amends the specification as indicated above to more clearly identify Figure 3 as the same embodiment as Figure 2, with Figure 3 having a shallower cross section as compared to Figure 2 (so as not illustrating the details of the attachment of the thrust plate and shaft) and the symmetric and asymmetric grooves of Figure 2 illustrated instead by arrows (rather than grooves to more clearly illustrate the pumping direction).

Claims Rejected under 35 U.S.C. § 112

Regarding claim 15, it is submitted that the “stationary component and rotatable component” claim language is not indefinite since the direct or indirect cooperation of each element with every other element is defined within claim 15. Nevertheless, for further clarity, Applicants amend claim 15 to include the following:

a journal bearing defined between an inner component and an outer component, wherein the inner component and the outer component are positioned for relative rotation, and define a portion of a stationary component and a rotatable component;

Regarding claim 34, the Office Action states that it is not clear how the fluid could circulate only part of the way and not complete the fluid circuit. Applicants traverse the rejection. Applicants submit that the immediate subsequent claim language must also be considered: “about the journal bearing.” That is, as described, the journal bearing may include a portion axially above the journal plenum 312, since the location where the first and second fluid passageways join with the journal bearing is not limited (in claim 15 and claim 34) to the axial ends of the journal bearing.

Nevertheless, for further clarity, Applicants amend claim 34 to state that the fluid circulates about a substantial portion of the journal bearing.

Regarding claim 35, the Office Action states that “relatively tapered” is indefinite. Applicants traverse the rejection. Applicants submit that the immediate preceding wording must also be considered: “the shield and the outer component form adjacent surfaces that are relatively tapered...” Thus it is submitted that it is clear that these surfaces are relatively tapered to each other. Nevertheless, Applicant amends claim 35 for further clarity to state:

“... wherein the shield and the outer component form adjacent surfaces, wherein the adjacent surfaces that are relatively tapered, and wherein the relatively tapered adjacent surfaces and converge toward the recirculation plenum.”

Regarding claim 33, the Office Action essentially states that the words thrust plate bearing passageway is indefinite in relation to other passageways. For further clarity, Applicant amends claim 33 as follows:

“...wherein the radial member is a thrust plate and the second fluid passageway is a thrust plate bearing passageway defined between the thrustplate and the outer component.”

Regarding claim 32, during the Examiner interview, the Examiner indicated that claim 32 should also be rejected as the term “sleeve passageway” is unclear. While Applicant submits that the meaning is clear, the claim is amended for further clarity. Claim 32 is amended stating in part that the first fluid passageway is defined through a sleeve.

Claims Rejected under 35 U.S.C. § 102(b)

The Office Action rejects claims 15, 20, 34-36 and 39 under 35 U.S.C. 102(b) as being anticipated by Titcomb (US Patent 6,315,452). Applicants traverse the claims rejection. In order to serve as a §102 reference, the reference must teach every aspect of the claimed invention either explicitly or impliedly (MPEP §706.02). The cited reference Titcomb has not done so for at least the following reasons.

Applicant's Claimed Invention

Applicant's invention is directed in part at an improved sealing system that withstands operating mode and nonoperating mode mechanical shock. The invention provides asymmetric sealing, active recirculation and an enlarged fluid reservoir. In an embodiment, the enlarged fluid reservoir has a lower pressure area than other fluid containing areas, and when the motor is spinning, centrifugal force acts on the reservoir fluid forcing it into the bearing, causing air to be expelled. During a mechanical shock event, fluid is retained within the reservoir. Other advantages and novel structures are claimed as well.

The Office Action cited Titcomb reference:

Regarding Applicants independent claim 15, the Office Action states that Titcomb discloses a shield affixed to a stationary component, defining a reservoir with the outer component. The Office Action further states that Titcomb discloses a recirculation plenum joining the reservoir, the first fluid passageway and the second fluid passageway. The Office Action further states that Titcomb discloses a shield affixed to a stationary component defining a reservoir. Applicants traverse the rejection.

In contrast to Applicants claimed invention (claim 15), Titcomb does not utilize a reservoir. A reservoir is defined as an artificial place where water is collected and stored for use, or a receptacle or chamber for holding a liquid or fluid. This definition is from Dictionary.com Unabridged (v 1.0.1), Based on the Random House Unabridged Dictionary, © Random House, Inc. 2006.

The component 190 described by Titcomb is not a Reservoir but rather an interconnected axial passageway where fluid is not held but instead passes. As described in Titcomb:

...it flows radially outward until emptying into a plurality (preferably eight or more) of axial passages 190a-b. From the ends of axial passages 190a-b, the lubricating fluid flows toward the middle, emptying into a plurality (preferably eight or more) of radial passages 192a-b... (Titcomb, col. 9, lines 3-9, emphasis added)

Further, in contrast to Applicants claimed invention (claim 15), Titcomb does not disclose a recirculation plenum joining the reservoir, the first fluid passageway and the second fluid passageway. The interconnected axial passageway that the Office Action refers to does not join a reservoir but is instead situated between two radial passageways.

Further, in contrast to Applicants claimed invention (claim 15), Titcomb does not disclose a shield affixed to a stationary component defining a reservoir. Instead, the component 160 is a shaft cap that, with surface 152 forms a sleeve thrust bearing layer filled with fluid to support the sleeve with the shaft. As stated in Titcomb:

... upper and lower annular surfaces 152a-b (FIG. 2D) cooperate respectively with the mating portion 158a of outer fixed-shaft surface 116 (FIG. 2A) and the mating portion 158b of the upper fixed shaft cap 160 (FIG. 2E) to form therebetween the two sleeve thrust-bearing layers 162a-b (FIG. 1), which are filled with a quantity of lubricating fluid to hydrostatically support the nearly frictionless rotation of rotatable bearing sleeve 146 in axial alignment with inner fixed-shaft surface 118. (Titcomb, col. 7, lines 13-22, emphasis added)

Claims Rejected under 35 U.S.C. § 103(a)

The Office Action rejects claims 17, 21 and 37 under 35 U.S.C. 103(a) as being unpatentable over Titcomb (US Patent 6,315,452). Applicants traverse the claims rejection to show that

obviousness is not established. Features of Applicants claimed invention are not taught or suggested by the reference. Further, there is no suggestion or motivation either in the reference or in knowledge generally available to one of ordinary skill in the art to modify the reference.

Claims 17, 21 and 37 depend from claim 15. It is submitted that Titcomb teaches away from elements of claim 15, in particular, the reservoir, recirculation plenum and shield. Instead, Titcomb describes interconnecting fluid passageways rather than a reservoir defined between a shield and an outer component. With reference to Applicants claim 17, Titcomb does not describe or suggest any reservoir like Applicants claimed reservoir that could hold up to 2.5 mg of fluid.

Further, Titcomb fails to describe a reservoir, recirculation plenum or shield as described in Applicants claim 15 (as described above with reference to Applicants 35 U.S.C. § 102(b) arguments). Therefore, it is submitted that the claims 17, 21 and 37 overcome the 35 U.S.C. 103(a) rejection.

Dependent Claims 16-21 and 31-39

It is submitted that Applicants dependent claims 16-21 and 31-39 are allowable for at least the reasons stated above with regard to the independent claim 15. Further, Applicants dependent claims, recite further features and combinations of features that are patentably distinct and not taught or suggested by Titcomb.

CONCLUSION

In view of the foregoing, it is submitted that claims 15-21 and 31-39, as amended, patentably define the subject invention over the cited references of record, and are in condition for allowance and such action is earnestly solicited at the earliest possible date.

If the Examiner believes a telephone conference would be useful in moving the case forward, please contact the undersigned at Tel. (310) 312-1500.

Respectfully submitted,
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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on November 30, 2006.

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